

BIOLOGY STUDIES DRINKING WATER — Researcher Nathaniel Revis prepares to measure the blood pressure of a white Carneau pigeon, one of a colony raised specifically for a study conducted by ORNL's Biology Division. The research, sponsored jointly by DOE and the Environmental Protection Agency, showed that pigeons whose drinking water contained lead or cadmium — elements that exist in small amounts in soft water — were more likely to develop cardiovascular disease.

Y-12 completes fall cleanup

The Y-12 Plant's Fall cleanup campaign was an overwhelming success. Through it, almost two million pounds of mixed metals, 225,000 pounds of combustible trash and 151,000 pounds of wood and cardboard were collected from various areas of the plant and taken to a disposal site. The campaign was led by Maintenance Division Manager Hugh Beeson.

Following the two-week cleanup period, a management inspection team which included Jack M. Case, Roy D. Williams, Gordon G. Fee and Kenneth W. Sommerfeld, toured select areas and conferred ratings that ranged from outstanding to unacceptable.

"Outstanding" ratings were awarded to E-Wing Casting, Building 9212; and ORNL's Engineering Technology Division, Building 9201-3. The following areas were given the next highest rating of "superior": 9720-5 Warehouse; 9212 A1/A2-

Wing Machining; 9212 A-Wing Inspection; Alpha-5 East Machine Shops; 9202 Advanced Isotope Separation Development areas; 9720-6 Maintenance Shops; and 9201-2 Office/Conference Rooms in Fusion Energy Division.

"The inspection team was very impressed with the significant improvements that had been made throughout the Plant, although some areas need additional attention," Case said. "We certainly appreciate the efforts put forth by each employee in identifying and discarding items that are not needed in the performance of his/her job."

The Y-12 Plant is establishing a quarterly system of inspections to help ensure that trash and debris are disposed of and that unneeded equipment and materials are kept in the proper areas. Ward L. Marsh, Maintenance Division, will serve as inspection coordinator.

Three-phase QA program under way in Division

"Quality Assurance — A Tool for High Performance" is the underlying theme of quality assurance seminars currently in progress in the Nuclear Division. The seminars are part of a three-phase program to help employees develop a better understanding of the appropriate application of statistical quality assurance methods. Participants learn to use these methods as an integral part of assuring quality along with our established approach of assessing, planning and evaluating.

This program consists of (1) an introductory session; (2) four 2-hour management and QA staff training sessions; and (3) line application sessions involving other levels of the work force.

David S. Chambers, past president of the American Society of Quality Control, serves as lead consultant and instructor for the program. Chambers is currently a consultant with W. Edwards Deming, the statistical consultant who is credited with training Japanese managers and scientists in statistical methods which led to their successful productivity gains and quality improvements.

"...quality is competitive edge..."

In introductory sessions held at ORNL, Y-12 and ORGDP, presentations were made by Nuclear Division Vice President Paul R. Vanstrum, QA Manager John M. Gerwels and Chambers. Vanstrum endorsed the QA program and discussed his conviction on quality from a management perspective. "I have come to feel that in this country and, in fact, in the world market, *quality* is the competitive edge today. We have all been accustomed to thinking in terms of costs and schedules as major factors in our work, and we tend to let these overwhelm us sometimes. However, they are really not adequate by them-

selves. Quality has to come right along with costs and schedules. We need to think quality and be cognizant of it all the time," he said.

Vanstrum stressed the necessity of a team effort if the Nuclear Division is to have an exemplary quality assurance program. "We can look at the failure problems, the quality problems, and it is all of us against all of the problems we have," he said. In comparing the needs in our quality assurance program to the highly successful safety program, Vanstrum stated: "I think we need to develop the same kind of reflexes for quality. When we are thinking quality without having to be told or without having to refer to some manual, we are instinctively thinking about what we are doing and how it impacts on quality."

Key to success

Gerwels presented an overview of the Nuclear Division QA Program, stressing the importance of management's commitment and implementation as the key to its success. He explained the "Questions...Actions" phrase on the QA Logo. Nuclear Division personnel are encouraged to think and raise *questions* when it appears that quality may be adversely affected by an activity. *Actions* taken as a result of this questioning are of a preventive nature and result in better assurance of quality.

Gerwels challenged the managers and QA staff to derive quality indicators for their organization. "QA should be considered a front-end investment of resources to provide confidence that your organization's quality objectives will be met. A good QA program provides protection, in the form of information, to achieve that confidence," he said.

(Please turn to Page 8)

In this issue...

If you're afraid you'll overeat and gain weight during the upcoming holiday season, you may be interested in some menu alternatives offered in a new *Nuclear Division News* feature, "The Lunch Box," found on page 4. In this article, nutritionists from ORNL and Y-12 offer suggestions for low-calorie breakfast, lunch and snack menus.

Other features:

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Y-12 Maintenance apprentices graduate to journeymen status

It was graduation day recently in Y-12's Maintenance Division, as electricians, pipefitters and outside machinists became journeymen.

"Graduating" entails from two to four years of on-the-job apprenticeship and completion of educational activity related to a specific craft and passing rigid, written tests. Both management and union coordinators approve the graduation from apprenticeship to journeymen status.

An apprentice is required to have at least 144 classroom hours of related study per year.

To be selected as an apprentice an employee is evaluated on a 100 point scale...25 for the interview; 25 for a written test; 25 for experience; and another 25 for education. An apprentice is continually evaluated during his apprenticeship.

The program is closely audited by the Tennessee Department of Education and the Veterans Administration and follows standards approved by the U.S. Department of Labor's Bureau of Apprentice Training Standards approval section.

Y-12's graduating class included new electricians James A. Moore, Hugh T. Christie, James O. Bledsoe, Bruce A. Drinnon, Richard E. Woods, Johnny M. Ballard, Robert M. McFalls, Jack L. Campbell and Larry D. Noe.

New pipefitters are Jimmy R. Smith, Charles E. Fletcher Jr., Alan E. Ladd, William D. Hammond, Archie F. Tucker, James D. Branum and John Phillips.

Journeymen outside machinists include William H. Cumbie, Franklin D. Wilson, Richard E. Roberts, James D. May, Robert L. McCartt and Roman Littlejohn.



CONGRATULATES NEW JOURNEYMEN — Dan Stroud spoke at the recent 'commencement' for apprentices who moved into the journeymen status in the Maintenance Division at Y-12. 'We have watched your progress with pride. Today is your day,' he told the new journeymen.



Oscar L. Williams, steward, congratulates James D. Branum



ELECTRICIAN JOURNEYMEN — First row, from left, James A. Moore, Hugh T. Christie, James O. Bledsoe, Bruce A. Drinnon and Richard E. Woods. Standing are Quentin A. Reynolds, coordinator; A. K. Johnson Jr., maintenance superintendent; William S. Akers Jr., Johnny M. Ballard, Robert M. McFalls, Jack L. Campbell and Larry D. Noe.



OUTSIDE MACHINISTS — Seated from left, William H. Cumbie, Franklin D. Wilson and Richard E. Roberts. Standing, William S. Akers Jr., James D. May Jr., Robert L. McCartt, Roman Littlejohn and Jack Elmore, chief steward.



NEW PIPEFITTERS — First row, Jimmy R. Smith, Charles W. Fletcher Jr. and Alan E. Ladd. Second row, William D. Hammond, Archie F. Tucker, James D. Branum and John Phillips. Standing are William S. Akers Jr., Training Department; Clarence R. Eichelberger, supervisor; and Zoral A. Breder, apprentice coordinator.

Carlsmith named ORNL director conservation, renewable energy

The appointment of Roger S. Carlsmith as director of a newly designated Conservation and Renewable Energy Program at ORNL has been announced by Murray W. Rosenthal, associate director for advanced energy systems.

The organizational change combines the closely related activities of the Conservation Program, which Carlsmith has directed since 1978, and the existing Solar and Geothermal Programs.

The new structure parallels the organization within DOE, where support for these activities is provided through the Office of the Assistant Secretary for Conservation and Renewable Energy.

Although the previous positions of geothermal coordinator and solar coordinator will no longer exist, the respective coordinators, John W. Michel and Steven I. Kaplan, will continue to be active in the technical leadership of these activities. Michel heads the efficiency and renewables research section in the Energy Division and Kaplan is group leader for solar projects in that section.

Before his previous appointment as director of the Conservation Program, Carlsmith had been head of the energy conservation section of the Energy Division since it was formed in 1974. He has a bachelor's degree in chemistry from Harvard University and a master's degree in chemical engineering from the Massachusetts Institute of Technology.

He joined the Nuclear Division as an engineer at the Oak Ridge Gaseous Diffusion Plant in 1950. Five years later, he transferred to ORNL



Carlsmith

where his assignments included design of advanced nuclear reactors, fuel cycle analysis, economics of energy systems and energy sources.

In 1970, Carlsmith was appointed associate director of the ORNL Environmental Program, sponsored by the National Science Foundation. As head of the energy group of this program, he initiated analytical and experimental research which pointed out the large savings in energy and money that could be obtained through conservation.

Carlsmith has been a member of the Governor's Energy Task Force for the state of Tennessee, the Federal Power Commission Task Force for Energy Systems, the National Academy of Sciences Committee on Nuclear and Alternative Energy Systems, and the Energy Advisory Committee for the Oak Ridge School System.

Carlsmith and his wife, Thelma, live in Oak Ridge at 1052 West Outer Drive. They have two children.

Corporate world of Union Carbide

UNION CARBIDE CORPORATION has selected Loveland, Colo., as the site for construction of a \$15-million air separation plant to supply the area's growing demand for oxygen, nitrogen and argon.

Plans for a Colorado facility, to be operated by the Linde Division, were announced in October of last year. A spokesman said that Loveland has now been chosen as the specific location after an extensive study of market demand, transportation needs and the availability and cost of electric power. Electricity is a major manufacturing expense in the production of industrial gases.

Union Carbide is the country's leading producer of atmospheric gases. The Loveland site, about 50 miles north of Denver, is conveniently located to serve consumers of gases such as the electronics industry and operators of coal gasification and enhanced oil recovery processes.

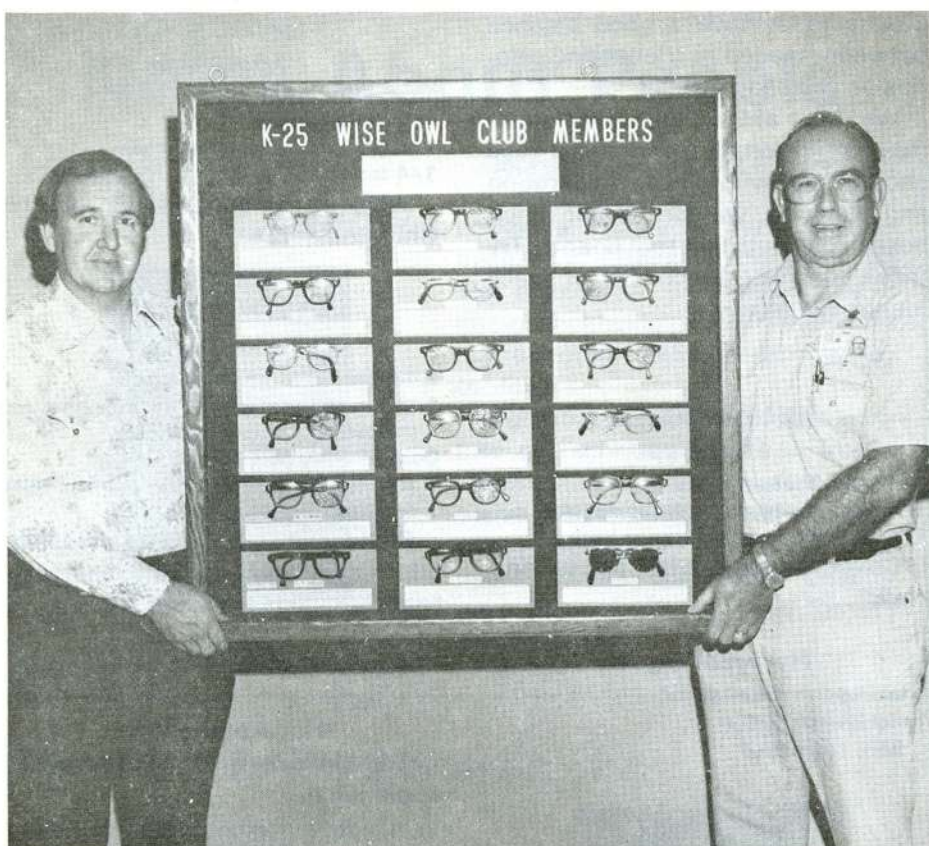
PLANS FOR AN AIR SEPARATION PLANT to service the National Aeronautics and Space Administration and industrial customers in Virginia

have been announced by Union Carbide Corporation. The \$17-million plant in Hampton will be operated by the Linde Division for the production of 345 tons per day of liquid oxygen, nitrogen and argon.

The Linde Division has been awarded an \$11 million contract to supply liquid nitrogen over the next five years to the NASA Langley Research Center. The bulk of the product will be used in NASA's National Transonic Facility, a new cryogenically-cooled transonic wind tunnel.



"Good job — first time — every time — that's quality assurance."
(Submitted by M. Charlene Dawes, Paducah Plant.)



WISE OWL HALL OF FAME — James E. Choate and Bruce P. Holbrook, ORGDP Operations Division, are the newest members of the Wise Owl Club. Employees are accepted into this national organization when wearing of proper eye protection prevents what could be a serious injury to their eyes. Choate was attempting to start a fan when the 480-volt breaker exploded. The lenses of his safety glasses were covered with dust and the right lens showed particle penetration in the center. Holbrook was struck in the face by the coupling from an air hose. Although the force cracked the left lens of his safety glasses, his eyes were protected. Through 1980, ORGDP had 19 Wise Owl Club members, and there are 76 members throughout the Nuclear Division.

Credit unions sponsor IRA seminars

The ORNL and K-25 Federal Credit Unions are sponsoring two seminars on Individual Retirement Accounts. They will be held December 3 and 10 at 7 p.m. at the American Museum of Atomic Energy, Oak Ridge. Registration is limited to 300 persons for each seminar and registrants will be accepted on a first come, first served basis.

Explanation of the IRA's and the advantages of such accounts will take about 30 minutes and the remaining time will be allowed for questions.

Registration may be made through the ORNL Credit Union, extension 4-8364; or K-25, 6-1401.

UNION
CARBIDE

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for employees such as:



Delbert R. Arwood, shop supervisor in the ORNL Plant and Equipment Division.

Nuclear Division News

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INTERNATIONAL ASSOCIATION
OF BUSINESS COMMUNICATORS



The lunch box



Bonnie J. Casey, R.D.



Janice L. Kidd, R.D.

Editor's note: Bonnie J. Casey and Janice L. Kidd are nutritionists on the medical staffs at ORNL and Y-12, respectively. Casey received the BS in food science administration and the MS in nutrition from the University of Tennessee before joining the ORNL staff in 1980. Kidd holds the BS in home economics and the MS in business administration, also from the University of Tennessee. She joined Union Carbide in April.

For lunch today, Ms. "Picture of Health" had a turkey and low-fat cheese sandwich with green pepper and onion strips; 1/2 cup of fresh apple and orange sections; carrot and celery sticks with yogurt dip; and eight ounces of skim milk. Mr. "When I Get A-Round to It," however, had six peanut-butter-and-jelly crackers; a cream swirl; a candy bar; and a 16-ounce cola drink. Mr. Round has noticed that, although he eats about the same amount of food as Ms. Health, his seems to show up in a different place.

In order to help Mr. Round, we must remember a few basic facts about nutrition. Anyone who consumes more calories than his or her body needs for its daily activities will gain weight.

All food is made up of one or more of the following combinations: protein, fat, carbohydrate, vitamins, minerals and water. All of these are necessary for a healthy diet. Protein and carbohydrate contain about four calories per gram, while fat contains nine calories per gram. Foods high in nutrient density but low in calories would be good choices for anyone who desires to lose weight. For example, vegetables would be a much better choice for Mr. Round than a baked product containing excess fat and carbohydrate (like the cream swirl), because vegetables are rich in vitamins and minerals and low in calories. However, too large a quantity of any food will result in the consumption of excess calories, so we must look at both quantity and

quality to achieve a good balance between needed nutrients and calories as they add up.

We don't always take the time to make nutritionally economical food choices, but with a little preparation and planning, we can fill our lunch boxes with nutrition that counts. Try these breakfast, lunch and/or snack menus for variety.

BREAKFAST

Fruit Cup

1/4 small banana, sliced
1/4 cup unsweetened pineapple juice
1/4 cup unsweetened orange juice
Cover banana with juices and chill.

Flavored Yogurt

1 tablespoon strained fruit
1 cup low-fat yogurt
Mix together.

Melba Toast: 2 slices

SNACK #1

Mock Cinnamon Buns

2 slices toasted raisin bread
2 tablespoons unsweetened applesauce
1/4 teaspoon cinnamon
1/2 cup non-fat dry milk
1/2 cup ice water
2 teaspoons lemon juice
10 drops artificial sweetener

Chill non-fat dry milk and add ice water slowly while whipping to peaks. Lightly fold in applesauce, cinnamon, lemon juice and sweetener. Serve 2 tablespoons on each piece of raisin bread.

Skim Milk: 8 ounces

SNACK #2

Raw Vegetables with Yogurt Dip

Add a dash of onion or garlic powder to 1 cup plain yogurt. Serve with raw vegetables cut into strips.

SNACK #3

Fruit Whip

1 cup skim milk
1/2 small banana
1/4 cup unsweetened peaches
1/4 teaspoon vanilla

Whip in a blender for 1 minute. Chill and serve.

LUNCH #1

Turkey Salad

2 ounces baked turkey (cool)
1/2 cup chopped celery, green pepper and carrots
Dash of curry powder and pepper
2 tablespoons low-calorie cucumber salad dressing
Blend spices and salad dressing; add turkey and vegetables and mix together. Serve on leaf lettuce.

Sesame Crackers: 2 large round

Hot Apple Juice

Add cinnamon stick to 8 ounces apple juice.

LUNCH #2

Broccoli-Cauliflower Casserole

4 ounces frozen broccoli
4 ounces frozen cauliflower
1/3 cup Minute Rice
2 ounces low-fat smoked cheddar cheese (grated)
1/4 cup evaporated milk

Prepare rice according to package directions. Cook broccoli and cauliflower in microwave oven on high setting in one-quart casserole loosely covered for 4 minutes. Add cheese, rice and mix. Blend together and cook for 6 more minutes on high setting. Let stand for 3 minutes.

Fresh Orange: 1 small

Whole Wheat Roll: 1 small

Hot Tea

Add 1 tablespoon orange juice (unsweetened) and 1/2 teaspoon brown sugar.

Named Computer Sciences section head



Pace

Joseph V. Pace III has been promoted to section head in the Technical Applications organization of Computer Sciences.

Pace is a native of Forest, Miss. He received his bachelor's and master's degrees in nuclear engineering from Mississippi State University in 1965 and 1967, respectively. After serving two years in the U.S. Army, he joined the Nuclear Division in 1969.

In his new position, Pace will head the reactor physics applications section of the Nuclear Engineering Applications Department. He was formerly a computing specialist.

Pace and his wife, Sallie Tarrer Pace, have two daughters and a son. They live on Venice Road in Knoxville.

Patents

Arthur F. Rupp, ORNL retired, and David V. Woo, for "Preparation of High Purity Phosphorus."

Manfred K. Kopp, ORNL, for "Multianode Cylindrical Proportional Counter for High Count Rates."

Alicia L. Compere and William L. Griffith, both of ORNL, for "Microorganism Immobilization."

Samuel R. Buxton and David O. Campbell, both of ORNL, for "Process for Recovery of Palladium from Nuclear Fuel Reprocessing Wastes."



FIVE MILLION SAFE HOURS — Employees in ORGDP's Barrier Manufacturing Division were recognized on October 9 for having worked five years and five-million employee-hours without a lost-work-day injury. Former ORGDP Manager Ken W. Sommerfeld presented a plaque in recognition of outstanding safety performance to Inspector Jess W. Stapp, Barrier Operator Earl C. Palmer, and Division B. Wayne McLaughlin. Employees on all four operating shifts shared in the celebration.

News About People

Jasny named AIChE Fellow



Jasny

George R. Jasny, vice president of the Nuclear Division, has been named a Fellow of the American Institute of Chemical Engineers. He was elected for his contributions to energy technology, particularly in the management of nuclear energy facilities.

A graduate of Massachusetts Institute of Technology with an MS in chemical engineering, Jasny is active with the AIChE and the Tennessee Society of Professional Engineers, whose Oak Ridge Chapter gave him the Outstanding Service Award in 1974.

Glenn Babb, Y-12 Stores, dies

Glen F. Babb, a stockkeeper in Y-12 Stores, died November 6 at a Knoxville hospital. A native of Knoxville, he served in the U.S. Army, and worked with J. A. Jones before coming with Union Carbide in 1955.

Survivors include his wife, Nadine Ward Babb, sons, Wesley and Jeffrey; daughter, Linda McKinley; his mother, Josie Hall; brothers, Ralph, Charles, Kenneth, Jerry and Earl Hall; a sister, Bettye Humbert; and two grandsons.

Funeral services were held at the Click Funeral Home, Lenoir City, with burial in Loudon County Memorial Gardens.



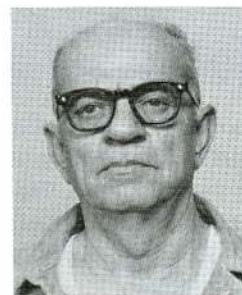
Mr. Babb

The family has requested that any memorials be in the form of contributions to the American Cancer Society, c/o Mrs. Eugene McClanahan, 408 Greenwood Drive, Clinton, 37716.

James Michaels, Y-12 Machinist, dies

James W. Michaels, a machinist in Research Services at Y-12, died November 7 at a Knoxville hospital. He joined Union Carbide in 1967. A native of Knoxville, he served in the U.S. Navy from 1942 to 1945, and worked with McDonnell-Douglas Aircraft, Aluminum Company of America and the Tennessee Valley Authority. He also worked at ORGDP from 1951 until 1958.

Survivors include his wife, Gaynell Michaels, 4211 Sevierville Pike, Knoxville; a son, Joseph Brown; a daughter, Judy Richardson; sisters, Willie Henson, Leonia Harmon, Mary



Mr. Michaels

Myers, Ethel Hilton and Edith Cruze; and two grandchildren.

Funeral services were held at the Gloria Dei Lutheran Church, with burial in Woodlawn Cemetery.

Samuel Foust, ORNL truck driver, dies

Samuel E. Foust, a truck driver in the ORNL Plant and Equipment Division, died October 29 at his home in the Clear Branch Community, Lake City.

Mr. Foust, a twelve-year Carbide employee, was a member of Clear Branch Baptist Church and a World War II veteran of the U.S. Army Air Force.

Survivors include his wife, Thelma Stephens Foust; five sons, Jerry M., Samuel Jr., Timmy S., Randy and Larry; a daughter, Jackie Kay Jerrell; a stepson, Terry Mealer; three brothers, Glen R., James H. and Clyde C.; two sisters, Anna Mae Elliott and Betty Bass; and four grandchildren.



Mr. Foust

Funeral services were held November 1 at Clear Branch Baptist Church, with burial in Leach Cemetery.

Datz appointed in Physics Division to head atomic physics section

Sheldon Datz, group leader for chemical dynamics and surface chemistry in the Chemistry Division at ORNL, has been appointed head of a newly formed atomic physics section in the Physics Division. The appointment was announced by Paul H. Stelson, division director.

The Physics Division carries out both basic and applied research on nuclear and atomic processes, using an array of particle accelerators to study the reactions when energetic beams react with target materials. Among these facilities are the Holifield Heavy Ion Research Facility, a national center incorporating a new 25-million-volt tandem electrostatic accelerator and the Oak Ridge Isochronous Cyclotron, and a 7.5-million-volt tandem Van de Graaff accelerator.

Datz is recognized for the first successful study of a chemical reaction using molecular-beam techniques. This development helped to lay the foundation for the present field of chemical dynamics, which is concerned with the dynamic properties of reactive atomic and molecular collisions.

In 1980, he was named a Union Carbide Corporation Research Fellow.



Datz

Datz holds bachelor's and master's degrees in physical chemistry from Columbia University and his PhD from the University of Tennessee.

In addition to chemical dynamics, his research interests have included intermolecular energy transfer, high-temperature thermodynamics, particle-surface interactions, atomic collision physics and atomic collisions in solids.

Most recently, as a group leader in the Chemistry Division, his investigations have centered on ion-solid interactions, channeling of electrons and positrons in crystalline solids, and collisions of negative ions.

Datz and his wife, Jonna, live at 100 Scenic Drive, Oak Ridge.

Save Energy / Share The Ride

Y-12

RIDE from Harbison Crossroads/Ridgeview Drive, to Central Portal, 8-4:30 shift. W. W. Welch, plant phone 4-2091; home phone Knoxville 687-6505.

CAR POOL MEMBER from South Cedar Bluff/Stateview area, West Knoxville, to North or Central Portal, 8-4:30. Gary M. Henderson, plant phone 4-3593; home phone Knoxville 693-7887.

JOIN CAR POOL from Cedar Bluff, Pellissippi, or Lovell Road areas, to Central Portal, 8-4:30 or 7:30-4 shift. Sandy Bauch, plant phone 6-4927.

RIDE or JOIN CAR POOL from Bonneyview Avenue, Kingston, to East Portal, 8-4:30 shift. Howard Horne, plant phone 6-0517; home phone Kingston 376-7960.

RIDE or JOIN CAR POOL from Cumberland Estates area to West Portal, 8-4:30. Betty Queen, plant phone 4-3349; home phone Knoxville 690-0861.

JOIN CAR POOL from Pleasant Ridge Road/Oak Ridge Highway, Knoxville, to Central Portal, 7:30-4. Michael Hodges, plant phone 4-2713; home phone Knoxville 522-0225.

VAN POOL RIDERS needed from Fountain City/Inskip/Norwood/Powell shopping centers to any portal, 8-4:30. Bill Moyers, plant phone 4-3195; home phone Knoxville 689-4087.

ORGDP

FORM CAR POOL from Cumberland Estates Shopping Center, Knoxville, to Portals 1 or 2, 7:30-4. (Can change shift to 7:45-4:15 if necessary.) Susan Patty, plant phone 4-8087; home phone Knoxville 588-1756.

ORNL

RIDE NEEDED from Oak Ridge Highway between Karns and Solway to East Portal, 8:15-4:45. Peterson, plant phone 4-4483; home phone 690-3989.

VAN POOL RIDER needed from West Knoxville area (Bearden through Farragut) to main portals, 8-4:30. Dean Treadway, plant phone 4-6580; home phone 584-4879.

Hidden hazard

The mouthwash on your bathroom shelf may be posing a real danger to small children around your house. The color, flavor and smell of mouthwash apparently is attractive to curious toddlers. According to a report by the National Poison Center Network, 422 cases of mouthwash poisoning in children under 6 were reported during an 18-month period.

Mouthwash contains alcohol — sometimes as much as 27 percent. Drinking even part of a bottle can cause stupor, coma or even death in a small child. Remember that mouthwash bottles don't have safety caps, so it's up to you to keep their contents out of reach.



Application for Tickets

to Oak Ridge Christmas Parties



FOR CHILDREN OF UNION CARBIDES EMPLOYEES
(AGES 2-10 ONLY)

SATURDAY, DECEMBER 19

Employee's Name _____

Home Address _____

City _____ Zip _____

Plant Address _____ Mail Stop _____

Number of Tickets (Children) _____

Number of Tickets (Adults) _____

—CHECK TIME PREFERRED—

Saturday, December 19

Only

9 A.M. _____ 11 A.M. _____ 1 P.M. _____ 3 P.M. _____

Please mark first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given to early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled out, to the Carbide Recreation Office, Building 9711-5, Mail Stop 1, Y-12 Plant. Please apply for tickets before December 11.

Trudy's dalmatians will highlight Christmas parties for Oak Ridge children of Carbiders set for Saturday, December 19, at the Oak Ridge High School auditorium.

Larry Bohanan will also return with his puppet and magic act. The ticket application, below, features times at 9 and 11 a.m., and 1 and 3 p.m. Please indicate first and second choice for your children. Adults need tickets as well.

The application is also repeated for the Paducah employees, as their party is set for Saturday, December 12, at 9 a.m. in the Arcade Theater in Paducah.

Early applicants are assured of choice times.



APPLICATION FOR TICKETS

PADUCAH CARBIDE CHILDREN'S CHRISTMAS PARTY

(For Children Ages 2-9)

SATURDAY, DECEMBER 12, 9 A.M.

(Doors will open at 8:30 a.m.)

ARCADE THEATRE, PADUCAH, KY.



Employee's Name _____ Badge No. _____

Home Address _____

(Please Print Street Address or RFD, City and Zip Code)

Number of your children who will attend the party (please list)

Name _____ (BOYS) Age _____ Name _____ (GIRLS) Age _____

Name _____ Age _____ Name _____ Age _____

Name _____ Age _____ Name _____ Age _____

NOTE: Fill out form completely and return as soon as possible, to the Recreation Office, Union Carbide Corporation, P.O. Box 1410, Paducah, Ky. 42001. Tickets will be mailed to parents at their home addresses.

Bowling alley notes...

UCC Mixed...

Terri Hall paced her No Names team in the UCC Mixed Bowling League recently to inch them up within one point of the lead in the hotly paced race. Hall put a 581 scratch, 698 series up there. The Squeakers will hold top slot. Their 2500 handicap series stands high. Dave Moseley's 272, 703 handicap scores also stand high. Linda Burnett's single of 256 is also high.

Carbide Wednesday...

The Alley Rads hold a slim lead still in the Wednesday Carbide League, rolling past the ???'s. Leon Hurd's 639 scratch series paced the ???'s recently; and Charlie Cagle rolled a 715 handicap series for the Protectors. High single game went to Lou Finley, with a hot 282.

Y-12 C...

The Badgers keep the top slot in the Y-12 C League, outbowling the Sunflowers. Jim Thompson's 247 scratch, 279 handicap single was high recently... while Philip Manos' 625, 718 series paced the action. Previously, Bill Johnson put a 233 scratch, 266 handicap single up there... and John Patton rolled a 585 scratch series; as Ron Sy rolled a 653 handicap series. Hugh Cox converted a big 4-10 split to add a little more spice to the rolling.

ORNL A...

Edwood's Chargers keep a lock on the ORNL A League, as they rolled a 3261 handicap series. Bobby McKnight rolled a 671 handicap series, as Roy Vandermeer put a 265 up on the scoreboard. In late October, it was Charlie Cagle, posting a 680 handicap series; Benny Wood rolling a 250 single. Bill Montgomery also put a 721 handicap series up high.

Y-12 Classic...

The Ridgers still hold a slim lead in the Y-12 Classic, as the Tigers, Has Beens, Playboys and Kingpins also stay within striking distance. Bill Mee rolled a 283 single, as Billy Patrick paced the league with a 727 handicap series.

The Ridgers' 3217 stands high in team scoring, as does the Has Beens 1107 single.

Monday Mixed...

The Omegas barely hold a lead in the UCC Monday Mixed, two points ahead of the Go-Getters. Tom Elliott's 595 handicap series still holds, as does C. Womack's 627 tally.

The Pacesetters rolled a 2092 scratch series recently.

K-25 Tuesday...

The Fearless Five hold a good lead in the K-25 Tuesday Bowling League, by a good 16 points. The Roadrunners rolled a 3154 for a season high, and the Mishaps put a 1111 single up there. M. J. Gibson's 553 scratch series was high, and S. S. Stief's 665 handicap total paced the teams.

Paducah fishing...

Elvis Courtney's 7 lb., 4 oz. black bass took the first prize in Paducah's crappie and bass competition. Bill Henderson took second prize with a 5 lb., 3 oz. catch. Third place went to W. F. Cage, with a 4 lb., 7 oz. entry.

In the crappie race, it was Jack Bennet, with a 2 lb., 4 oz. prize. Dorothy (Mrs. Hardy) Pottingers, took second place with a 1 lb., 14 oz. trophy; and B. J. Bond captured third place with a 1 lb., 12 oz. crappie. Other crappie entries were submitted to David Kaufman and Elvis Courtney.

Paducah tennis...

Mark Trail placed first in the October Tennis Tournament at Paducah, with Dave Tylor in second place, and Mike Holloway coming in third.

In the senior men's singles competition, Bill Brucker took first place; Bill Kelly and Richard Fletcher placed second and third, consecutively.

In women's singles, Sandy Trail took first place with Terri McLain taking second slot.

Mark Trail and Bill Kelly combine talents to take men's doubles; while Mike Holloway and Richard Fletcher placed second. In senior men's doubles, it was Richard Fletcher and Bill Brucker earning the laurels.

Safety Scoreboard

Time worked without a lost-time accident through November 12:

Y-12 Plant	34 Days	1,206,000 Employee-Hours
ORGDP	154 Days	4,259,028 Employee-Hours
ORNL	550 Days	12,985,117 Employee-Hours
Paducah	471 Days	4,280,000 Employee-Hours

Mobile hearing laboratory saves time, money at ORGDP

A new mobile hearing test unit is saving time and money, and helping to ensure that ORGDP employees who work in "high noise areas" get their annual audio tests, according to Dr. Guy Fortney, ORGDP Medical Director.

Many ORGDP employees work in areas where they are exposed to noise levels that have been designated by the Occupational Safety and Health Administration as requiring annual hearing tests. (Employees in other areas are tested every eighteen months.) These areas are posted and all persons working or entering are required to wear protective devices.

Previously, the annual testing requirement caused some employees who are located in remote areas to be away from their jobs for as long as two hours while they traveled to and from the Medical Center. Therefore, "we decided to take the test to the people," Dr. Fortney said.

The \$25,000 trailer, complete with audiometer and related equipment required by the American National Standards Institute, parks at specific areas in ORGDP, and remains as long as it takes to test all employees in that area. The unit has been in operation since September.

The amount of time required to complete testing in an area depends on the number of employees to be tested, but usually ranges from one to two months. From 20 to 30 employees are tested daily. This schedule is arranged to accommodate workers on all shifts.

Supervisors notify employees of when they are to report for their audio tests. Since appointments are prescheduled, waiting is kept to a

minimum. The actual examination takes 10 minutes, according to Marie Butcher. She is one of the registered audio technicians who administers the tests. The technicians work in the mobile unit on a rotating schedule.

Dr. Fortney predicts it will take seven to eight months to test all ORGDP employees who work in high noise areas. The facility, which is the first of its kind in the Nuclear Division, will be placed in standby during the remainder of the year.



GIVING THE SIGNAL — Mary S. Gibson raises her finger to indicate she hears the tone.



ENTERING THE TRAILER — (from bottom step), Elizabeth W. Lewis, Lila M. Johnson and Mary S. Gibson, Barrier Plant operators enter the mobile hearing unit.

Anniversaries

Y-12

35 YEARS

Louis A. Watson, General Shops; and Ernest Lawson, Buildings Grounds and Maintenance Shops.

30 YEARS

Charles H. Bowman, General Shops; Lon W. McNeil, William R. Winsbor and Helen H. Long, all of Engineering; Coy N. Crawley, Electrical and Electronics; Claude J. Allmon, B-2 Expansion Assembly; Glenn H. Barton, Special Services; Raymond E. Justice, Process Maintenance; Irvin G. Speas, Employee Relations; Glenn E. Fisher, Electrical and Electronics; Billie H. Britton, Plant Laboratory; Jesse L. Spray, Process Maintenance; and Offie Trull, Research Services.

25 YEARS

Wayne D. Howard, James B. Hopkins, Charles C. Niemeier, Louise C. Egner, James E. Somers and Raymond B. Thompson.

ORNL

35 YEARS

John C. Martin, Plant and Equipment; Charles F. Foust, Finance and Materials; and Woodrow D. Cottrell, Health and Safety.

30 YEARS

Sue H. Prestwood, Analytical Chemistry; Herbert H. Bradford Jr., Chemical Technology; Felix J. Henry, Plant and Equipment; and Cyril G. Lawson, Energy.

25 YEARS

Maitland A. Baker, John T. Houston, Frank M. Barnes, Ralph D. Goodman, James R. Plunkett, Edward P. Trowbridge, Bill R. Chilcoat, Bon S. McCown, Patsy C. Keeble and Robert M. Holmes.

20 YEARS

Orville L. Smith and Charles A. Sampsell Jr.

20 YEARS

James W. Baker, Thomas E. Diggs and Jack Ivey.

Question Box

Is jogging accident a lost-timer?

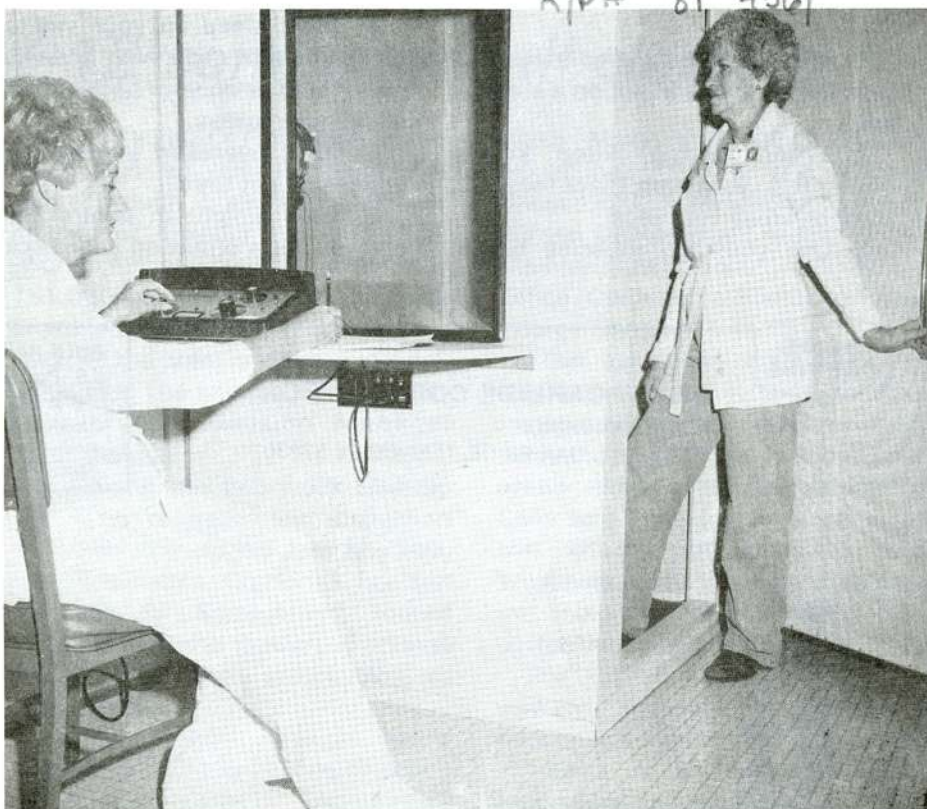
QUESTION: Will the ORNL safety record be broken by the accident suffered by a female jogger who fell recently while attempting to jump a chain at the West Portal?

ANSWER: The ORNL safety record was not broken by the accident referred to in your question. The incident was classified as non-occupational since it was not job related and occurred during the employee's nonpaid lunch period. The employee, after examination by Medical personnel, returned to regular work.

QUESTION: A memo has been issued at ORGDP relative to spot

checking articles coming into the plant. What about wrapped gifts for showers, retirements, etc.?

ANSWER: Consistent with long-standing regulations, articles coming into the plant have always been spot checked to make sure that firearms, ammunition, explosives, cameras, radios, transmitters, recorders, alcoholic beverages and prohibited items are not brought into the secured area without proper authorization. Since the contents of wrapped packages cannot be easily identified, you are advised either not to wrap gifts or, if wrapped, have the package contents accessible for inspection.



ENTERING THE TESTING CUBICLE — Wilma W. Reinert, right, Barrier Plant operator for ten years, enters the testing booth while Technician L. Marie Butcher prepares to give the audio test.



Ernie Evans, Separation Systems Division Director, presents a quality assurance plaque to Gailon Jeffers, while Jeffers' supervisor, Ralph P. Lukat, looks on.

SSD develops new QA plan

The Separation Systems Division (SSD) at ORGDP has put into effect a new plan for radically improving the effectiveness of its quality assurance (QA) program during 1982. The plan borrows heavily from the highly successful Nuclear Division safety program.

According to SSD Director Ernie C. Evans, focus of the new plan is on forging a more effective partnership between the line organization and the division's QA staff. It features such things as (a) weekly meetings of top managers to discuss quality system problems and review progress of the program; (b) weekly meetings between department heads and section leaders to plan specific quality improvements within their departments; and (c) monthly departmental meetings involving all employees to review progress and, especially, to solicit ideas and suggestions on how to remove obstacles to improved quality performance.

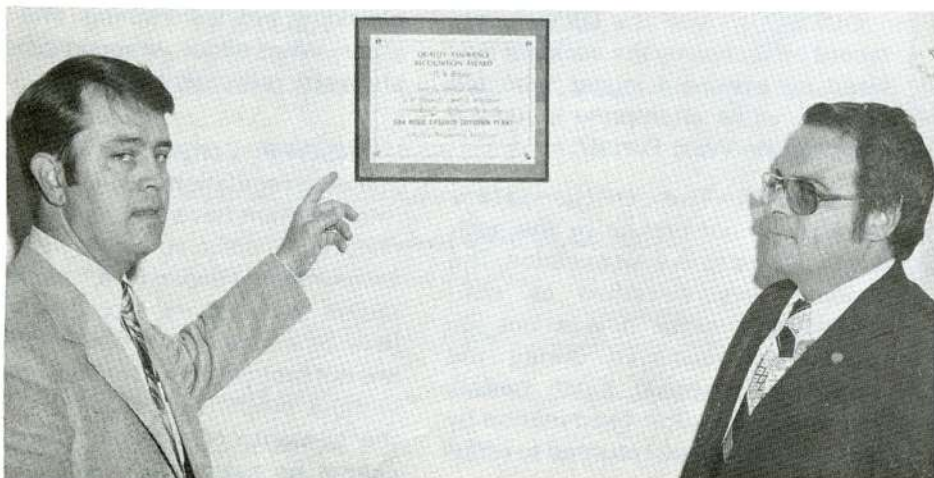
To encourage participation and make it easier for employees to pass on ideas about areas needing attention, the quality department has developed a division-wide quality suggestion procedure which promises specific follow-up by line-organization managers.

The recently established Nuclear Division QA recognition awards program is already being used to call attention to significant contributions made by division employees. Awards were recently presented to Dwight W. Brewer of the centrifuge test eval-

uation department and Gailon Jeffers of the test and cascade operations department. In each case, these employees noticed an operating condition which would have led to a costly quality failure if they had not been sensitive to its importance and willing to call it to the attention of their supervisors. Just as calling an unsafe condition to the attention of the proper people can prevent accidents, this kind of action can prevent quality failures.

The role of SSD's quality department has been strengthened, and the staff increased by five quality control engineers and five quality control engineering technologists. They will work closely with line managers in planning, implementing and monitoring activities judged important to the division's quality performance.

Roger L. Davis, SSD quality manager, notes that a key ingredient to the new program will be increased concern, on the part of all SSD managers, for giving proper balance to assuring quality along with the desire for meeting costs and schedules. Cost and schedule performance will, in the long run, be improved by "holding out" for quality performance. The SSD staff believes that high quality performance will provide the "competitive edge" they will need if they are to continue to be a leader in the development of improved uranium enrichment technology in the years to come.



Dwight L. Morrow, left, inspects the QA plaque that Dwight W. Brewer received for his contribution to the Separation Systems Division program.

Quality assurance seminars

(Continued from page 1)

Chambers addressed the use of statistical quality methods in explaining the Deming approach to quality in Japan, how it worked, why it was successful, and how it can work for us. In describing the objective of the training sessions, Chambers said: "What we do is look at variability in maybe a different way because the variability is our problem. No two things are alike provided you can measure. If you can measure good enough, you find they are different. The FBI Basic Manpower Identification Concept is based on the premise that there are no two things just alike. They have tested it billions of times. When they turn up with two different people that have the same fingerprints or just one fingerprint the same, then their whole system will crash."

Deming's approach is to separate variability into two classes — special causes and common causes. Special causes of variability are local in nature and involve such things as material, machines, methods or operators. Actions by the worker or local supervision can remove these sources of variability.

Common causes of variability are system problems, like improper design, inadequate equipment, inadequate training, unreliable instruments and tests, and environmental influences. Only management can correct system problems.

The second phase of the program consist of four two-hour sessions in which Chambers further explains the concepts of Deming's approach.



David S. Chambers
quality control consultant

These sessions, which cover the meaning and application of controls and how to apply them effectively in an organization, will continue in Oak Ridge through November. The first two phases of the program will be presented at the Paducah Gaseous Diffusion Plant in January.

Plans for phase three of the program, which is a line application of these methods for certain prototype groups, are being formulated. This phase is designed to help employees at various levels gain a better understanding and practical working knowledge of these techniques in order to maximize QA performance in the Nuclear Division.

Tips on avoiding back injuries

Here are a few suggestions to help you avoid back injury or pain:

- 1) When standing, keep knees and hips flexed. Place a foot on a stool or step.
- 2) When sitting, keep knees higher than your hips. Place feet on a stool or cross your legs.
- 3) Use your leg muscles to lift

heavy objects. Never bend forward to pick up something.

4) Don't sleep on your stomach. Sleep on your side with knees and hips flexed or on your back with a lift under your knees.

5) Don't overexert yourself. Rest when you get tired.

6) Keep weight in control. Extra pounds put a strain on your back.

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